

DESCRIPTION OF THE INVENTION

Field of the Invention

[001] This invention relates to a starter motor assembly for starting an engine and, more particularly, to a starter motor assembly that has a return spring spaced from a pinion assembly of the starter motor assembly. This application is being filed concurrently with U.S. Patent Application Serial No. 10/002166, entitled Engagement and Disengagement Mechanism for a Coaxial Starter Motor Assembly, with inventors David A. Fulton and James D. Stuber, and assigned to Delco Remy America, Inc.

Background of the Invention

[002] Starter motor assemblies to assist in starting engines, such as engines in vehicles, are well known. The conventional starter motor assembly broadly includes an electrical motor and a drive mechanism, which generally includes a mechanism for engaging and disengaging a pinion-type gear with an engine flywheel. The electrical motor is energized by a battery upon the closing of an ignition switch. The drive mechanism transmits the torque of the electrical motor through various components to the engine flywheel, thereby cranking the engine until the engine starts.

[003] In greater detail, the closing of the ignition switch (typically by turning a key) energizes a solenoid with low current. Energization of the solenoid moves a metal solenoid shaft or plunger in an axial direction. The movement of the solenoid plunger closes electrical contacts, thereby applying full power to the electrical motor. Th